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IN THE UNITED STATES BANKRUPTCY COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
CORPUS CHRISTI DIVISION

In re:	§	**BANKRUPTCY**
	§	**Case No. 05-21207**
ASARCO LLC, *et al.*,	§	
	§	**CORPUS CHRISTI, TEXAS**
Debtor.	§	

EXPERT REPORT OF
ROBERT POWELL, Ph.D., P.E.
and ENVIRON INTERNATIONAL CORPORATION

ON BEHALF OF
ASARCO INCORPORATED

October 10, 2007

ENVIRON

ESTIMATE OF ENVIRONMENTAL LIABILITIES
East Helena Superfund and Smelter Site
East Helena, Montana

Prepared by
ENVIRON International Corporation
Chicago, Illinois

On behalf of
ASARCO Incorporated

October 10, 2007

Issue:	*ESTIMATE OF ENVIRONMENTAL LIABILITIES* *East Helena Site* *East Helena, Montana*
Author/PM/Director (signature):	 *Robert Powell, Ph.D., P.E.* *ENVIRON*
Date:	*October 10, 2007*

ESTIMATE OF ENVIRONMENTAL LIABILITIES
East Helena Site
East Helena, Montana

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1.0 INTRODUCTION

Milbank, Tweed, Hadley & McCloy LLP (Milbank) retained Dr. Robert Powell of ENVIRON International Corporation (ENVIRON), on behalf of ASARCO Incorporated, to evaluate the claims by the United States of behalf of the United States Environmental Protection Agency (USEPA), the State of Montana (collectively, "the Agencies"), as well as private parties (Burlington Northern Santa Fe Railroad or "BNSF"), for response costs relating to the East Helena Superfund and Smelter Site (herein referred to as the "Site") and to form preliminary conclusions with respect to ASARCO LLC's potential liability at this Site.

The preliminary conclusions we have formed and their supporting facts are presented below. Due to the volume of materials in this case, citations to examples and the basis for our opinion are representative, not exhaustive. We reserve the right to supplement or modify this report and conclusions to respond to any new or additional information that may become available after the date of this report, and to rebut, as necessary, any conclusions offered by the Agencies, BNSF or their experts in this case.

A copy of the current Professional Profile of Dr. Robert Powell is attached hereto as Attachment A.

Dr. Robert Powell is a Principal and a practicing Professional Engineer and groundwater hydrologist at ENVIRON. He received a Ph.D. in Civil Engineering (Groundwater Hydrology) in 1983. He received an M.S. in Civil Engineering (Water Resources) in 1977. He received a B.S. in Civil Engineering (Environmental Engineering) in 1973. All of his degrees were received from the University of Maryland.

Dr. Powell has over 30 years of experience as a practicing consultant in the fields of environmental engineering, surface and groundwater hydrology, hazardous waste management, contaminated site investigation/remediation, risk assessment, and environmental risk management. This experience includes professional consulting services at many of the largest hazardous waste disposal sites throughout the United States and Canada that are regulated under federal and state environmental statutes. His work in this regard has included remedial investigations and the evaluation and design of corrective actions at numerous industrial and commercial facilities that generate hazardous wastes and other regulated materials. These have included facilities that have undergone closure under RCRA, TSCA, CERCLA, and related state regulatory programs, such as the California Water Code.

Dr. Powell has previously been qualified as an expert and testified in federal and state courts in the fields of groundwater hydrology, environmental investigations and remediation planning, environmental risk management, and cost allocation and the consistency of remedial actions with National Contingency Plan (NCP) under CERCLA.

The conclusions of Dr. Powell's evaluation are based on the following significant documents:

- ASARCO, Inc., undated. Brochure on East Helena Plant.
- ASARCO Inc., 2003. Phase I RCRA Facility Investigation, Site Characterization Report, East Helena Facility

- ASARCO LLC, 2007a. Five Year Budget
- ASARCO, 2007b. Motion to Estimate Environmental Liabilities and for Implementation of Procedures for the Handling of Omnibus Objections to Environmental Claims
- Helena Independent Record, 1997. EPA to Stay in East Helena
- Helena Independent Record, 2006. ASARCO Owes State More Than $200K In Penalties
- Hydrometrics, Inc., 1990. Comprehensive Remedial Investigation/Feasibility Study, ASARCO Incorporated, East Helena, Montana
- Hydrometrics, Inc., 1991. Remedial Investigation/Feasibility Study For Residential Soils, Wilson Ditch Sediments, and Vegetation, ASARCO East Helena Site
- MFG, Inc., 2006. Memorandum on Estimated Cost to Complete Lake County Community Health Program Implementation
- MDEQ, 2006. Proof of Claim
- MDEQ, 2005. East Helena, MDEQ Consent Decree, RCRA Issues (Materials Removal)
- USDOJ, 1998. RCRA Consent Decree, East Helena Plant
- USEPA, 1988. Administrative Order on Consent for Remedial Investigation and Feasibility Study.
- USEPA, 1990. Record of Decision, East Helena Site, OU 01
- USEPA, 1991. Administrative Order on Consent for Removal Action
- USEPA, 2006a. Initial Proof of Claim
- USEPA, 2006b. Supplemental Proof of Claim
- USEPA, 2006c. Second Five Year Review for the East Helena Superfund Site
- USEPA, 2007a. EPA Announces Plans for a Final Cleanup of East Helena's Residential Soils and Undeveloped Lands
- USEPA, 2007b. Fact Sheet: EPA Plan for OU2 Cleanup

2.0 BACKGROUND

The East Helena Superfund Site includes the ASARCO LLC lead smelter site as well as portions of the City of East Helena, nearby residential areas, agricultural areas, and undeveloped lands that have reportedly been impacted by lead, arsenic, and zinc from former smelter operations. The lead smelter site is owned by ASARCO LLC and covers approximately 160 acres.

The lead smelter was built by the Helena and Livingston Smelting & Reduction Company in 1888 and sold to a predecessor of ASARCO LLC in 1899 (ASARCO undated). ASARCO LLC or its predecessors have owned the Site from 1899 to the present. The lead smelter was taken out of service in 2001. The former Anaconda Mineral Company constructed a zinc fuming facility in 1927 adjacent to the lead smelter to recover zinc oxide from the lead smelter slag. A predecessor of ASARCO LLC purchased and operated the zinc fuming facility from 1972 until it was closed in 1982 (USEPA 1988).

USEPA began a CERCLA investigation of the Site in the early 1980s after the discovery of elevated blood lead levels in children living in East Helena. The Site was listed on the National Priorities List (NPL) in 1984 as the East Helena Superfund Site. Preliminary remedial investigations were performed at the site from 1984 through 1987 (USEPA 1988). In 1987, the Site was segregated into five operable units, as follows:

- OU1 - Process Fluids (process ponds and process fluids circuits)
- OU2 – Groundwater
- OU3 – Surface Soils, Surface Water, Vegetation, Livestock, Fish and Wildlife, and Air
- OU4 – Slag Pile
- OU5 – Ore Storage Areas

(Note: OU2, OU4, and OU5 were subsequently transferred to the RCRA corrective action program, at which time OU3 was re-designated as OU2. See RCRA discussion below for further details.)

A Record of Decision (ROD) for OU1 was issued in 1989 (USEPA 1989). Between 1990 and 1995, a predecessor of ASARCO LLC performed most of the required remedial actions for OU1. In March 2006, USEPA issued a Second Five Year Review Report for the East Helena Superfund Site (USEPA 2006c). The report indicated that not all of the OU1 ROD requirements had been met. However, the report also indicated that the remaining issues associated with OU1 would be addressed under the RCRA corrective action program, as discussed below.

In 1991, USEPA and a predecessor of ASARCO LLC signed a Consent Order (USEPA 1991) to address the lead-impacted soil in residential properties, parks and schools, unpaved streets, irrigation ditches, and commercial areas (part of the current OU2). These soil cleanup activities began in 1991 as a non-time critical removal action and have continued on an annual basis to the present. As of 2006, these activities have resulted in the cleanup of 620 residential yards; 450 sections of alleys, roads, and aprons; 6 public parks; 2 school playgrounds; 45 commercial public areas; 4,200 linear feet of irrigation ditch; 150 flood channel and ditch sections; and 36 vacant lots (USEPA 2007a).

In January 2007, the USEPA announced a plan for the final cleanup of the residential and undeveloped property soils in OU2 (USEPA 2007a and 2007b). The basic elements of the plan include:

- Residential Areas (and associated properties) – The proposed USEPA clean-up plan for residential areas includes soil cleanup via excavation and backfill with clean material in 110 residential yards, 9 vacant lots, and 40 sections of unpaved roads/aprons. Properties to be cleaned up are designated as those where any section of the property is found to have greater than 1,000 ppm of lead. Once identified as eligible for clean-up under this action level, all soil exceeding 500 ppm lead will be removed from these properties. The residential cleanup program proposed by USEPA also includes continued implementation of the Lead Education and Abatement Program and implementation of institutional controls for residential areas.
- Undeveloped Areas – The proposed USEPA clean-up plan for undeveloped areas includes soil cleanup via excavation and backfill with clean material in railroad rights-of-way (7 acres) and channels and ditches (1.8 acres). This also includes the in-place treatment of soil on impacted property (primarily agricultural) that may be developed in the future for which no scope was provided.

USEPA planned to issue a ROD for the OU2 final cleanup by September of 2007; however, the ROD has not been issued as of the date of this report.

A 1998 USDOJ Consent Order (USDOJ 1998) required a predecessor of ASARCO LLC to undertake RCRA corrective action at the smelter Site. This Consent Order also transferred the Groundwater (original OU2), Slag Pile (OU4), and Ore Storage Areas (OU5) from CERCLA to RCRA and re-designated OU3 as OU2. While OU1, Process Fluids, is still identified as a CERCLA operable unit, it appears that the remaining issues regarding OU1 are being addressed under the RCRA program. Since the date of the Consent Decree, ASARCO LLC and its predecessor have undertaken various RCRA corrective action activities, including: preparation of a Current Conditions/Release Assessment Report, implementation of interim remedial measures (air sparge test, permeable reactive barrier [PRB] installation, Corrective Action Management Unit [CAMU] construction, placement of contaminated soil and sediment into CAMU, acid plant spill recovery/containment, etc.), and completion of a RCRA Facility Investigation (ASARCO, Inc. 2003). Although corrective action has proceeded at the Site, it does not appear that a Corrective Measures Study has been prepared or that a final remedy for the Site has been selected.

A 2005 State of Montana Consent Order (MDEQ 2005) required ASARCO LLC to take action to remove, store, and properly dispose of hazardous waste and recyclable materials at the Smelter Site. The Consent Order also assessed a civil penalty for the alleged improper storage of hazardous waste. ASARCO LLC is involved in ongoing activities to address the 2005 Consent Order requirements.

ASARCO LLC filed for protection under Chapter 11 of the US Bankruptcy Code on or about August, 2005. The Agencies filed Proofs of Claim and Supplemental Proofs of Claim on or

before the bar date. The claims detail projected future response costs and past response costs at the Site, as well as Natural Resource Damage (NRD) claims. We note that the claims are unclear, contain ranges and are in many instances non-specific; for evaluation we have assumed that the Agencies would claim at the high end of their estimates.

3.0 SUMMARY OF CONCLUSIONS

The following presents the summary of conclusions regarding claims related to remediation and natural resource damages of the Agencies [and BNSF] at the Site. The conclusions are presented below in separate subsections.

3.1 Remediation

ENVIRON has divided the remediation claims into two major categories, as follow: 1) off-site areas (i.e., with the "site" defined as the ASARCO LLC-owned smelter property) that are covered by CERCLA and private party claims ("Off-Site Claims"), and 2) on-site areas (e.g., the owned smelter property) that are covered by RCRA claims ("On-Site Claims"). The US and State of Montana Off-Site Claims appear to total as much as $11.8 million for both past and future response (remediation) costs related to the Superfund Site (CERCLA claims). This does not include an additional $14.3 million State claim for future CERCLA costs that is redundant with the USEPA claims, nor does it include one US claim of an "undetermined" amount for future CERCLA costs. In addition, the Agency claims all assume joint and several liability on the part of ASARCO LLC without any attempt to allocate a reasonable share of responsibility to others based on the history of operations and the extent of contamination potentially attributable to the individual PRPs. Private party Off-Site Claims are approximately $29 million for past and future response costs on off-site properties; however, the private party claims are unsubstantiated. In summary, the total Agency and private party Off-Site Claims for past and future response costs is approximately $40.8 million (excluding the $14.3 million redundant State claim). Based on a review of available information, we estimate that the total value of Off-Site Claims for response costs to be approximately $4.4 million. With application of appropriate allocable shares, we further believe that ASARCO LLC's share of these Off-Site Claims for response costs should be approximately $2.6 million.

The US and State of Montana On-Site Claims for remediation costs (RCRA claims) appear to total as much as $14.3 million. This includes a $14.3 million State claim that appears to be for future remediation costs under both RCRA and CERCLA. This does not include a US claim for an "undetermined" amount for future RCRA Corrective Action or a State claim for an "undetermined" amount for certain remedial activities at the smelter plant. ENVIRON has estimated the future cost for on-site remedial activities to be approximately $27.9 million, based on remedial cost projections prepared by ASARCO LLC. It should be noted that ENVIRON did not include an evaluation of the allocation of the On-Site Claims in this analysis, since the smelter property is currently owned by ASARCO LLC.

3.2 Penalties

There is one US claim for stipulated penalties in the amount of $6 million for alleged non-performance of CERCLA Consent Decree requirements. There are two State claims for RCRA penalties in the amount of approximately $200,000. There is also one Federal claim of an "undetermined" amount for stipulated penalties related to alleged RCRA and CWA violations.

4.0 RATIONALE FOR DIFFERENCES FROM AGENCY CLAIMS

4.1 Remediation – Off-Site Claims

- The Federal CERCLA future response cost claim for the OU2 ROD includes $1.5 million for continued implementation of the Lead Abatement and Education Program. One of the primary goals of the Lead Abatement and Education Program was to reduce the overall exposure of lead in the East Helena community (USEPA 2006c). The Second Five Year Review report indicates that blood lead levels in the East Helena community have dropped to below USEPA's minimum acceptable level (USEPA 2006c). Further, USEPA has noted that risk of exposure to lead has been reduced significantly due in part to the residential soil removal that has been performed, elimination of smelter emissions in 2001, and interruption of the exposure pathway between smelter workers and their home environment (USEPA 2007a). Therefore, ENVIRON believes that the Government has not provided adequate justification for continuation of the Lead Abatement and Education Program and has valued this portion of the claim at $0.
- The Federal CERCLA future response cost claim for the OU2 ROD includes $8.5[1] million for the cleanup of 110 residential properties, 9 vacant lots, and 40 sections of unpaved roads and aprons (USEPA 2007a and 2007b). This amounts to approximately $53,000 on average per property. It is ENVIRON's opinion that residential yard cleanup should total approximately $7,500[2] and cleanup of other areas should average approximately $30,000/acre[3]. Therefore, ENVIRON's estimated cost for residential property cleanup is approximately $2.3 million ($7,500 x 110 residential properties plus 9 vacant lots and 40 sections of unpaved roads and aprons assumed to total 49 acres x $30,000/acre).
- The USEPA has identified approximately 9 acres of undeveloped property (railroad rights-of-way and ditches) that are currently known to require in-situ treatment due to the potential for public access to these properties. While the US claim for undeveloped properties is "undetermined", a USEPA document outlining the plan for the OU2 ROD estimates the cleanup cost for the railroad rights-of-way and ditches at $1.3 million (USEPA 2007a) or approximately $144,000 per acre. ENVIRON believes this cost to be

[1] The Government claim provides an estimated cost of $4.3 million for residential yard cleanup. However, the USEPA Fact Sheet for the OU2 ROD estimates the total remedial cost at $10 million. When $1.5 million for implementation of the Lead Abatement and Education Program is subtracted from this total, $8.5 million remains for the residential yard cleanup.

[2] ENVIRON derived these reasonable unit costs from its evaluation of the unit costs for clean-up at other mining and smelter emission sites that included remediation of residential properties. These reasonable unit costs have been provided for consistency for Expert Reports prepared by ENVIRON. Site specific issues may affect these unit costs. These costs do not include off-site disposal; however, we do not anticipate that soil removed from residential yards would be classified as a hazardous waste and in fact could possibly be put to beneficial reuse as capping material for commercial properties.

[3] ENVIRON derived these reasonable unit costs from its evaluation of the unit costs for clean-up at other mining and smelter emission sites that included remediation of residential properties. These reasonable unit costs have been provided for consistency for Expert Reports prepared by ENVIRON. Site specific issues may affect these unit costs. These costs do not include off-site disposal; however, we do not anticipate that soil removed from residential yards would be classified as a hazardous waste and in fact could possibly be put to beneficial reuse as capping material for commercial properties.

excessive and conservatively estimates the cost for remediation of the 9 acres of undeveloped property at $30,000/acre[4]. USEPA has stated that future cleanup of other currently undeveloped properties may be necessary as those properties are developed (e.g., current agricultural property being developed for residential or commercial use) and has estimated the cost for performing in-situ treatment of these properties at $4,800 per acre (USEPA 2007b). USEPA provided no estimate of the total acreage of undeveloped property that may require future cleanup in USEPA documents. ENVIRON does not dispute the $4,800 per acre cost for cleanup of undeveloped properties. However, we do not agree with USEPA's assertion that currently undeveloped property should be included in the scope of work for the OU2 ROD cleanup if there is no unacceptable risk associated with the current use of such properties. USEPA has noted that "[r]emedial action may or may not be necessary if the proposed new land use is recreational or commercial" and that "[n]o one can accurately predict which undeveloped lands may be developed next; when they might be develop; or what the new use might be" (USEPA 2007a). Therefore, predictions regarding future use of currently undeveloped property are highly speculative, and because of this it is inappropriate to include cleanup of undeveloped properties in the OU2 ROD.

- There is no basis for the State of Montana's claim of $14.3 million for future costs related to the East Helena Superfund Site. It appears that this claim is merely duplicative of the US claims.
- There is a US claim in the amount of $1.8 million for USEPA past oversight and response costs at the Site from 2000 to the present. ENVIRON believes this claim to be excessive given that USEPA's activities were limited to an oversight role and cover only a seven year time period. However, because USEPA did not provide sufficient information for us to evaluate the details of the US past response cost claim, ENVIRON has not reduced this claim amount.
- There is no basis for the BNSF claims totaling $29 million for past and future remediation costs. These claims appear to be redundant with Federal and State claims and, therefore, ENVIRON assigns the total BNSF claim a value of $0.
- The Off-Site Claims assume that ASARCO LLC is jointly and severally liable for 100% of the claim amount. However other entities operated on and around the Site over various time periods, and many had the potential to release lead to the environment. Regardless, under a settlement scenario, responsibility should be apportioned even if the criteria for several liabilities are not met. Because there is a rational basis for allocating costs, ASARCO LLC's liability should be several.
- ASARCO LLC's allocable liability for the Off-Site Claims for response costs will therefore vary on a rational basis depending on ASARCO LLC's historic activity relative to others.

[4] ENVIRON derived these reasonable unit costs from its evaluation of the unit costs for clean-up at other mining and smelter emission sites that included remediation of residential properties These reasonable unit costs have been provided for consistency for Expert Reports prepared by ENVIRON. Site specific issues may affect these unit costs. These costs do not include off-site disposal; however, we do not anticipate that soil removed from residential yards would be classified as a hazardous waste and in fact could possibly be put to beneficial reuse as capping material for commercial properties.

- ENVIRON evaluated the times of operation and ownership (due to the lack of available production information) of the smelter by ASARCO LLC, its predecessors and others to determine a weighted allocation for ASARCO LLC and other PRPs for the East Helena Superfund Site claims. This analysis is based on determining the total number of years that ASARCO LLC or its predecessors owned and operated individual lead emissions sources at the Site. In addition to the lead smelter there was a zinc fuming plant adjacent to the Site, which was also a potentially significant source of lead emissions. The lead smelter operated 113 years (1888 to 2001) and the zinc fuming plant operated 55 years (1927 to 1982). Therefore, the total number of years that lead emissions sources operated at the Site were 168 years. ASARCO LLC owned and operated the lead smelter from 1899 to 2001 (102 years) and the zinc fuming plant from 1972 to 1982 (10 years). Therefore, ASARCO LLC or its predecessors were responsible for 67% (102 years + 10 years divided by 168 years) of the total operating years for lead emissions sources at the Site. ENVIRON applied this allocation to all Off-Site Claims for CERCLA-related costs.

➢ ENVIRON has generally considered an appropriate allocation model to allocate 70% to 80% to site operators, 20% to site owners, and 0% to 10% to other transporters/disposers of materials from the site. These percentages may then be modified as appropriate based on site-specific circumstances. Based on information provided, ASARCO LLC or its predecessors were operators and site owners at the smelter site; however, there were obviously other transporters/disposers of smelter material in the area. Therefore, the liability percentages for ASARCO LLC or its predecessors is 60% for the off-site areas (90% of 67%).

➢ Application of this analysis to remediation costs reduces ASARCO LLC's share of liability for response costs for off-site areas to approximately $2.6 million. This includes $1.5 million for future costs (60% of [$2.3 million plus $270,000]) and $1.1 million for past costs. This represents and 94% reduction from the Government claim amount of $40.8 million for off-site areas.

4.2 Remediation – On-Site Claims

➢ The US claims for future cost related to RCRA corrective action at the ASARCO LLC smelter Site are "undetermined". The State claim for future RCRA corrective actions costs at the ASARCO LLC smelter Site is $14.3 million. The Agencies provided no support or basis for these claims. Documents indicate that ASARCO LLC and its predecessors have been performing RCRA corrective action activities to address soil, sediment, and groundwater impact at the smelter site. These activities have generally included the installation of groundwater treatment systems and the excavation and on-site disposal (in a CAMU) of impacted soil and sediment. Documents also indicate that ASARCO LLC is performing the 2005 Consent Order requirement to remove waste and recyclable materials through systematic demolition of structures at the Site along with removal and disposal of regulated waste materials. None of the documents ENVIRON has access to and reviewed provide details regarding the current condition of the Site, the RCRA corrective actions yet to be completed, or whether a final remedy for the Site has been selected. However, a document identified as a 5-year budget review that appears to have been prepared by ASARCO LLC outlines annual remediation activities and costs

for the smelter site for the period of 2007 through 2012. The annual activities are divided into three categories:

- Environmental Water – activities related to remediation of impacted groundwater (the constituent of concern for the groundwater is arsenic).
- Site Remediation – activities related to the removal of waste materials.
- CAMU – activities related to the operation and maintenance of the CAMU.

The Environmental Water and CAMU activities appear to be related to RCRA corrective action for soil and groundwater (i.e., 1998 Consent Order requirements) and the Site Remediation activity appears to be related to hazardous waste and recyclable materials removal (i.e., 2005 Consent Order requirements). The ASARCO LLC total estimated cost over the 2007-2012 timeframe for the Environmental Water and CAMU activities is $11.6 million. The ASARCO LLC total estimated cost over the 2007-2012 timeframe for the Site Remediation activities is $17.8 million. ENVIRON determined the net present value of these estimated costs using a 7% discount factor[5], which results in adjusted revised cost estimates of $11.1 million and $16.8 million, respectively. It should be noted that these cost estimates are based on the best available information regarding future RCRA corrective action activities at the smelter site.

4.3 Penalties

- There is a US claim in the amount of $6.0 million for stipulated penalties related to the 1991 Consent Order (USEPA 1991). The Proof of Claim (USEPA 2006a and 2006b) indicates that the penalty was assessed for the failure of ASARCO LLC and its predecessors to fund the East Helena Lead Education and Abatement Program and to reimburse USEPA for oversight and response costs. USEPA provided no basis or support for this specific claim amount. Based on documentation reviewed by ENVIRON, it appears that ASARCO LLC and its predecessors have fully funded the Lead Education and Abatement Program (Helena Independent Record, 1997). Therefore, certain aspects regarding the general basis for the US penalty claim are in question. However, because appropriate information was not available to evaluate the details of the penalty claim, ENVIRON has not reduced the claim amount
- There are two State of Montana penalty claims in the amount of $0.18 million and $0.03 million related to the alleged improper storage of hazardous waste and failure to permit a hazardous waste facility, respectively (USEPA 2006a and 2006b). ASARCO LLC agreed in the 2005 Consent Order (MDEQ 2005) to pay the $0.18 million penalty, therefore, ENVIRON has not reduced this portion of the State penalty claim amount. ASARCO LLC asserted that the State inappropriately identified material as a hazardous waste and, therefore, the $0.03 million penalty is not appropriate (Helena Independent Record, 2006). Based on documented challenges by ASARCO LLC to the State penalty, ENVIRON has reduced the claim amount to $0.

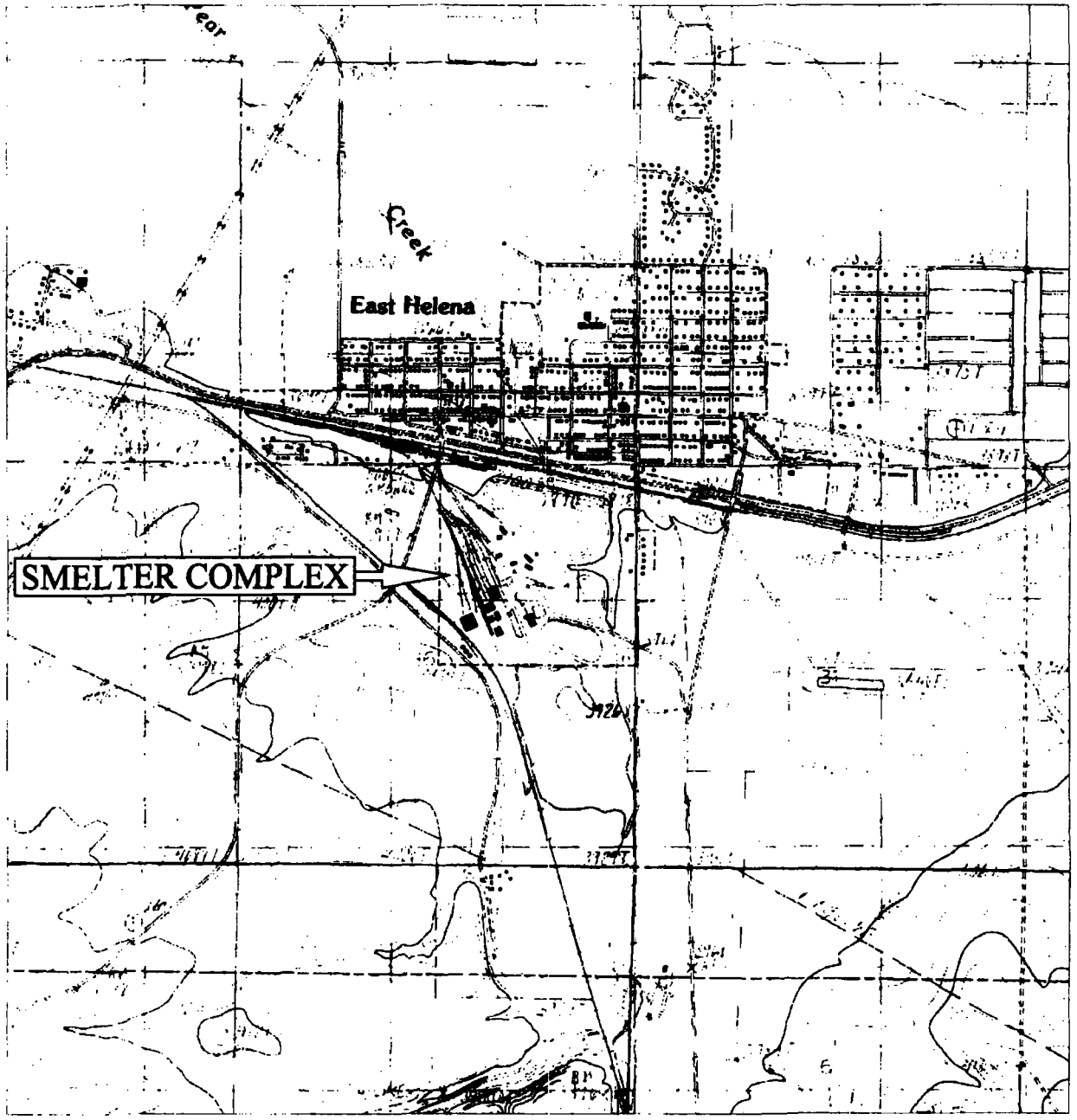
[5] OMB Circular No. A-94 "Guidelines and Discount Rates for Benefit-Cost Analyses of Federal Programs"

5.0 DATA GAPS

There are significant data gaps, primarily dealing with (1) The Agencies' backup for costs asserted in their respective Proofs of Claim; (2) relationships and agreements, if any, between PRPs that would allocate liability at the Site; and (3) the OU-2 ROD. While a great many documents are available that are fundamental to our understanding and evaluation of the Site, the following are gaps for which we would believe documents exist:

- We do not know if, and to what extent, any other party has settled its liabilities at the Site.
- There is no clear basis for the remedial costs contained in the Proofs of Claim. The US Department of Justice may have provided this information in the context of settlement discussions with ASARCO LLC, but this has not been produced.
- There is no information or analysis as to how ASARCO LLC views costs and liability allocations at the Site.

FIGURES



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SOURCE: U.S.G.S. 7.5 minute series (topographic)
East Helena, Montana Quadrangle, 1985 (Provisional Edition)

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ENVIRON

SITE LOCATION MAP
EAST HELENA SUPERFUND AND SMELTER SITE
EAST HELENA, MONTANA

Figure
1

Drafter: ELS Date: 08/03/07 Contract Number: 01-17735M Approved: Revised:

APPENDIX A

Rule 26 (A)(2)(B) Disclosure for Dr. Robert Powell

Robert L. Powell, Ph.D.

Education

1983 Ph.D., Civil Engineering (Ground water Hydrology), University of Maryland

1977 M.S., Civil Engineering (Water Resources), University of Maryland

1973 B.S., Civil Engineering (Environmental), University of Maryland

Registrations & Affiliations

Registered Professional Engineer, Maryland, 1977

Registered Professional Engineer, Florida, 2006

Experience

Dr. Powell is an environmental engineer and ground water hydrologist with over 30 years consulting experience including design and management of complex, multi-source remediation projects, regional ground water studies and risk-based corrective actions. He provides strategic consulting services for a range of private and public sector projects involving the investigation, remedial design, and cleanup of industrial facilities, operating waste management facilities and landfill sites, Superfund sites and Brownfield redevelopments. Dr. Powell's practice has focused on projects conducted under federal (USEPA) regulations in the Superfund (CERCLA) and RCRA Corrective Action programs and comparable state regulations. Dr. Powell also maintains an active litigation practice, providing litigation consulting services and expert testimony in state and federal courts and in administrative hearings.

Representative projects in his major areas of practice are presented below.

CERCLA Remedial Investigations and Remediation Planning

Dr. Powell has conducted numerous Remedial Investigations and Feasibility Studies and related remedial planning projects for private and public-sector clients under the federal Superfund and related state programs for the investigation and remediation of contaminants released into the natural environment.

- Completed an RI/FS of soil and ground water conditions for the McColl NPL Site, a former refinery-waste disposal site in Fullerton, California, that was regulated under CERCLA by the USEPA. This work focused on the investigation and control of waste migration in shallow, perched ground water zones and the mitigation of impacts on regional water supply aquifers. Contaminants of concern at the site included hydrocarbons, aromatics, thiophenes and metals. The RI/FS lead to the issuance of final ROD by the USEPA to close the site and restore the overlying property to beneficial use as a community golf course. Ground water impacts were addressed by a Monitored Natural Attenuation remedy.

- Served as principal technical advisor to the PRP Steering Committee, composed of a number of major international oil companies, during a negotiation with the USEPA for the development of a Scope of Work to implement the final remedy for closure of the OII NPL site near Los Angeles, California. This project focused on the development of

specific performance metrics and verification measures to evaluate the effectiveness of identified remedial actions in meeting specific performance goals prescribed in the final ROD for the OII site, the development of work plans for the implementation of additional investigations to facilitate remedial design, and in the negotiation of a final Scope of Work with the USEPA to implement closure of the site.

- Directed the completion of a Supplemental Feasibility Study for the California EPA for closure of the primary disposal area at the Stringfellow NPL site in Glen Avon, California. This project also included conducting pilot tests for the evaluation of technologies for removal of VOC and other contaminants through the use of high vacuum extraction, and a performance review of the remedial systems in the downstream areas to control the migration of contamination. Prior to this work, Dr. Powell served for nearly ten years as the technical advisor to the Stringfellow Advisory Community, a group representing various community and local government interests.

- Prepared an analysis of the human health risks associated with emission of chemicals during the remediation of the Royal Hardage hazardous waste disposal facility in Criner, Oklahoma. The facility had served as a regional site for the disposal of hazardous liquids, sludge and solids in bulk and in drums. Waste management units that were constructed at the facility included a hazardous waste landfill, a waste lagoon (filled with sludge and other bulk solids) and a large burial mound of liquid and solid waste in steel drums. This facility was closed under the oversight of the USEPA per the Superfund program.

- Prepared an analysis of the human health risks associated with the excavation of wastes from the Hyde Park Landfill NPL Site near Niagara Falls, New York. This landfill had been used for the disposal of a wide range of hazardous liquids and sludge from the manufacturing of pesticides, solvents and other chemical intermediaries into an open pit in fractured bedrock. The site was believed to be leaking DNAPLs and other liquids into ground water and the nearby Niagara River. The risk analysis was prepared for the USEPA and the US Department of Justice to support the negotiation with the landfill owner for the closure of the site.

- Managed the completion of a major regional ground water Remedial Investigation/Feasibility Study to address VOC contamination over a 30 square mile multi-layer aquifer system in New Brighton, Minnesota, associated with releases from the Twin Cities Army Ammunition Plant. This project was completed for the Minnesota Pollution Control Agency under a cooperative agreement with the USEPA under CERCLA.

- Provided regulatory support and expert reports to three major corporations in a series of negotiations with USEPA regarding CERCLA liability for ground water contamination in the Baldwin Park Operable Unit of the San Gabriel Valley NPL site near Los Angeles, California.

- Prepared a remedial action plan and supported negotiation with the USEPA on behalf of a PRPs group for the closure of Atlas Mine NPL site near Coalinga, California. This site was formerly an asbestos mine and ore processing facility that was a major source of asbestos-contaminated sediments discharging into the Central Valley of California.

- On behalf of a PRP group, prepared pilot treatment tests and a remedial action plan to address releases of sulfuric acid and toxic metals in soil and ground water, and supported negotiation with the SCDHEC, for the closure of the Stoller Chemical site, a former fertilizer manufacturing facility near Charleston, South Carolina, listed on the NPL.

- Provided consulting services to Fairfax County, Virginia, to oversee the investigation and cleanup of a large gasoline release from a ruptured pipeline into a new residential community. Services focused on the evaluation of applicable remedial strategies and the quantification of potential pathways for exposure from gasoline that accumulated on the underlying water table.

RCRA Facility Permitting, Compliance, and Corrective Action

Dr. Powell maintains an active practice of permitting, compliance support, and corrective action services, including RCRA facility investigations and remedial planning projects, to companies regulated under RCRA for the treatment, storage and disposal of hazardous wastes and under the RCRA UST program.

- Directed the completion of a remedial investigation and remediation planning project in Culvert City, California, to evaluate alternatives for the cleanup of MTBE and other gasoline constituents from the Charnock Sub-basin and to restore the use of municipal well field owned by the City of Santa Monica and the Southern California Water Company to productive use. This project involved extensive field investigations to define the nature /extent of contamination, development of regional ground water and water quality databases, computer modeling of ground water flow and contaminant transport, evaluation of technologies to treat ground water for gasoline, MTBE and tBA, and the development and evaluation of detailed remedial alternatives to restore regional ground water quality and the use of well fields for municipal supply. The project was completed under the oversight of the USEPA under RCRA and the LARWQCB under the state Water Code.

- Completed detailed hydrogeologic studies and analyses, designed final ground water monitoring systems, and prepared a final ground water monitoring program for the Laidlaw Environmental hazardous waste landfill in Pinewood, South Carolina, as part of a RCRA Part B permit application. Also completed investigation of shallow ground water contamination and developed a control strategy to limit the migration of contamination in accordance with applicable permit requirements. During the adjudicatory hearings for the Part B permit, served as the primary expert witness for the permit applicant on hydrogeologic characterization, ground water monitoring and landfill integrity issues.

- Served as a member on an expert international (US and Canadian) panel to develop an environmental management strategy and remediation plans for Laidlaw Environmental for the control of soil and ground water contamination at a former waste oil and solvent disposal site near Montreal, Canada. The site was used for the disposal of a range of bulk organic liquids into a former gravel-mining pit. Liquid organic wastes migrated as a DNAPL into underlying fractured bedrock zones and contaminated regional ground water supplies. The site closure was being conducted under the supervision of the Quebec Ministry of the Environment.

- Completed investigations of soil and ground water contamination at the BKK landfill in West Covina, California, as part of a program for closure of a former hazardous waste co-disposal landfill under a RCRA Corrective Action program. The site was former used for the disposal of liquid hazardous wastes into an unlined municipal landfill area. This project was performed under the oversight of the USEPA.

- Prepared hydrogeologic investigations, developed statistically based environmental sampling programs, designed and constructed ground water monitoring systems, conducted RCRA facility investigations, developed statistically based closure plans for former hazardous waste lagoons, and provided regulatory support for negotiation of federal, state, and local permits for two major RCRA hazardous waste landfills (near Bakersfield and in the Imperial Valley) operated by Laidlaw Environmental in California. During later public and zoning hearings for the operating permits, provided testimony on the site hydrogeology and environmental monitoring programs. Also, provided turnkey ground water compliance monitoring programs for a period of 5 years at both facilities.

- Directed a RCRA Facility Investigation report and Stabilization Measures evaluation for soil/surface water/sediment and ground water contamination at a precious metals manufacturing facility in Massachusetts under a Consent Agreement with USEPA (Region I). This project has included extensive hydrogeologic and aquatic investigations, environmental monitoring, risk assessment and environmental fate & transport modeling to support the identification of site-related risks and developed focused stabilization measures for soil, ground water and storm water runoff. Contaminants of concern at the site that have been the focus of this work include VOCs, metals, PCBs and radionuclides.

- Prepared a RCRA Facility Investigation, a Corrective Measures Study, and remedial plans and specifications for the investigation of soil and ground water contamination to support the closure of several unlined waste disposal pits at an operating hazardous waste disposal facility in central Louisiana. The facility had been used for the storage, treatment, and recovery of fuel products from waste oils and related organic liquids. Sludge from the thermal treatment (distillation) units was disposed into two unlined pits. Contamination (oil and solvents) migrated into underlying soils and ground water. The facility was required to remove the wastes and install a ground water remediation system as part of the implementation of a new master plan to develop a regional waste management facility. ENVIRON's services were provided to the facility owner, Safety Kleen, the largest commercial hazardous waste management facility operator in North America.

- On behalf of GBF Power Systems in Pittsburg, California, developed an environmental risk management program and statistical sampling design to evaluate waste classification and direct the reuse/disposal strategies for certain combustion co-product materials (gypsum and fly-ash) under federal and California state hazardous waste criteria in accordance with procedures prescribed in CCR Title 22 and 40CFR Part 261.

- Completed an analysis of the performance of natural-clay liner for a wastewater storage lagoon near Barstow, California, on behalf of Southern California Edison Co. to demonstrate compliance with regulations under the California Water Code. The project resulted in an agreement by the RWQCB that the pond liner systems meet the functional requirements of the liner standards under CCR Title 26.

- Provided supervision and oversight of a RCRA facility assessment at the Thermal Oxidation Corporation facility in Roebuck, South Carolina, on behalf of the facility owner, Laidlaw Environmental.

Litigation/Mediation Services and Expert Testimony

Dr. Powell provides litigation/mediation consulting, negotiation, and expert testimony services in cases involving the recovery of damages to property and personal injury from contaminants in the natural environment; the consistency of remedial investigations and remedial/removal actions with the requirements of the NCP, insurance cost recovery, and cost allocation. Dr. Powell has also testified in administrative and zoning hearings regarding environmental permitting of commercial hazardous waste facilities.

- Provided expert and negotiation services to Lockheed-Martin in the settlement of claims by the City of San Francisco to recovery the costs for the investigation and remediation of jet fuel releases discovered during the redevelopment of the new international terminal at the San Francisco International Airport.

- Provided expert testimony services on behalf of National Semiconductor Corporation in support of settlement mediation negotiations for claims related to the release of chlorinated solvents into shallow aquifers in Santa Clara County, California. These claims were successfully mediated under the supervision of a federal District Court judge in San Jose, California.

- Provided deposition and trial testimony in federal District Court regarding the nature, extent and source of contamination, the allocation of future remedial costs among PRPs, and the consistency of the RI/FS and past removal actions with the National Contingency Plan at a former wood-treating plant in Charleston, South Carolina.

- Prepared a cost allocation and NCP consistency analysis for a multiparty NPL site in Utica, NY involving a former manufactured gas plant, tar recovery plant, gas oil refinery, petroleum storage terminals, chemical plant, municipal harbor and dredge spoil areas. The allocation analysis formed the basis for opinions that were presented in an expert report in a cost recovery lawsuit filed in federal District Court. Subsequently provided deposition testimony in support of the allocation analysis.

- Prepared an analysis of the relative contribution by various PRP sectors (industrial, commercial, municipal, small quantity generation) of hazardous substances to five municipal landfills in the New York City area as part of litigation support to various PRPs in a Superfund cost recovery action. Analyzed the associated environmental impacts of leachate discharges from the landfills into adjoining tidal and marine estuaries. Subsequently, Dr. Powell was retained by a Special Master to the federal District Court in New York to provide expert scientific services in support of the court's mediation of a lawsuit by private citizens against the City of New York regarding the extent of engineering controls that should be installed to control the migration of leachate into adjoining tidally-controlled estuaries from the Fresh Kills landfill.

- Provided litigation support to the South Carolina Electric & Gas Co. in a negotiation with the City of Charleston related to the former operation of an MGP and the alleged damages to nearby properties owned by the City. This project also included an analysis of the potential increase in construction costs for a new City aquarium and marina, and a

storm water protection project, from manufactured gas plant-related contaminants in shallow soil and ground water.

- Provided litigation support and deposition testimony on allocation and NCP consistency in a CERCLA cost recovery case in Newark, California, related to the remediation of a facility undergoing redevelopment as a Brownfield site, following over 100 years of operation of metals manufacturing. The case was won in summary judgment in favor of ENVIRON's client on NCP consistency issues.

- Provided expert litigation support services to a major international oil company in a negotiation with the Port of San Diego related to the allocation of costs for cleanup of hydrocarbon (gasoline and diesel fuel) and coal tar releases completed by the Port as part of a Brownfields redevelopment project.

- Provided expert litigation support on issues of NCP consistency for the recovery of costs related to the closure of waste lagoons at a facility manufacturing PCP-based wood treating chemicals in Newark, CA.

- Prepared a cost allocation analysis of former owner/operators and generators of wastes disposed of in a municipal landfill in central California. This analysis was used to provide information to the California EPA for its consideration in preparing an NBAR for this state Superfund site.

- Provided litigation support to a PRP to examine cost allocation among former owner/operators of two wood-treating plants in Missouri and Louisiana.

- Provided litigation support and deposition testimony on behalf of Cooper Industries related to environmental insurance claims for soil and ground water contamination at multiple facilities throughout the US.

- Prepared an expert report and provided deposition testimony on behalf of Lockheed Corporation for an insurance claim related to environmental releases from multiple aerospace test/manufacturing facilities in California.

- Prepared an expert report and provided deposition testimony on behalf of a major international oil company for an insurance claim related to environmental releases from multiple petroleum refineries and tank farm facilities throughout the US.

- Prepared an expert report and provided deposition testimony on behalf of Century Indemnity for an insurance claim related to environmental releases from a former manufacturing facility in Wilmington, North Carolina. A central issue in the case was the allocation of future remediation costs among potentially divisible sources of onsite DNAPL-VOC contamination.

- Prepared an expert settlement report and participated in settlement negotiations for the recovery of insurance related to environmental conditions at 45 MGP sites in the mid-western US on behalf of a major gas production and transmission company.

- Prepared an expert report and provided deposition testimony in support of litigation by the Southern California Gas Company for the recovery of insurance for environmental conditions at 29 former MGP sites in southern California.

- Prepared an expert report and presented deposition testimony on behalf of DOW Chemical Company in a case seeking recovery of past and future costs for environmental corrective action at DOW's chemical manufacturing plants in Freeport, Texas.

- Prepared an expert report and provided deposition testimony on behalf of Union Pacific Corporation in an insurance cost recovery case related to soil and ground water contamination from its former operation of a major locomotive and rail-car manufacturing facility in Sacramento, California.

- Provided deposition and trial testimony in federal District Court regarding the extent of contamination, costs to remediate, and the potential for community exposure in a property damage case related to a gasoline release in a residential area in Columbia, South Carolina.

- Provided expert consulting services in a cost recovery suit related to the rupture of a regional pipeline transporting gasoline near Davis, California. Services focused on an evaluation of the reasonableness of response costs and the forensic reconstruction of the mechanisms/actions that contributed to the initial release and subsequent spread of gasoline in nearby irrigation canals..

- Provided expert and deposition services to the owner of a large former "truck stop" near Sacramento, California that was an ongoing Brownfields redevelopment project related to the recovery of costs from former owner/operators for the remediation of soil and ground water for gasoline and diesel-range hydrocarbons.

- Provided litigation consulting support and presented trial testimony in state court regarding the source and extent of ground water contamination and future remedial costs in a trespass/property damage case in Greenville, South Carolina.

- Testified before the California State Water Resources Control Board regarding proposed regulations on vadose zone monitoring at waste disposal sites.

- Provided expert testimony at administrative hearings on the environmental setting, ground water conditions, and monitoring programs for hazardous waste landfills in South Carolina and California operated by Laidlaw Environmental.

- Provided deposition and trial testimony in state court for a public water utility in Florida regarding the source and extent of ground water contamination in a major county-owned well field near Tampa, Florida.

Other General Engineering and Hydrology Practice

- Designed and supervised the installation and operation of a system to recover PCB-contaminated oil and VOCs from a shallow water table at a chemical manufacturing facility in northern New Jersey for compliance with the state ECRA statute.

- Provided expert consulting support to Hillsborough County, Florida, for the permitting of a major waster disposal landfill at the Gardinier Chemical Co. facility near Tampa. The waste disposal facility was proposed to be used for the disposal of acidic gypsum wastes from the manufacturing of phosphate-based fertilizers by extraction with sulfuric acid.

- Evaluated the hydrologic impacts of land application of wastewater effluent on water resources in Orange County, Florida, to demonstrate compliance with operating State permits.

- Conducted a flood protection analysis and developed a management strategy for the South Florida Water Management District to control agricultural discharges of storm water into drainage canals in St. Lucie County, Florida.

- Evaluated the feasibility of ground and surface water supply development on behalf of a municipal water utility in western Florida.

- Prepared a real-time flood forecasting system to optimize flood protection and water supply objectives for a major municipal reservoir in Manatee County, Florida.

- Evaluated the hydrologic impact of major municipal well field pumping on lake levels and wetlands near Ft Lauderdale and Tampa, Florida.

- Prepared numerous due diligence Phase I reviews for acquisition of industrial and hazardous waste treatment and disposal facilities.

- Conducted an in-depth due diligence review of environmental issues regarding operations of a Continental Airline on behalf of the successful investor group as part of an acquisition/reorganization of the company following bankruptcy.

- Managed multidisciplinary projects including flood hazard analysis, flood protection, sediment and erosion control, dam and reservoir analysis and design, lake restoration, surface mining impact evaluations, combined sewer overflow conveyance and storage systems, and solid waste disposal facilities in the mid-Atlantic and southeast regions of the US.

- Designed remedial measures for surface drainage and leachate control; directed restoration and closure; and performed water quality data analysis for a hazardous waste landfill, Glen Burnie, Maryland.

Prior to joining ENVIRON, Dr. Powell held the following positions:

- Manager of Water Resources Engineering Services, Gulf Coast Area; Camp Dresser & McKee, Inc.; Tampa, FL.

- Faculty Research Associate; University of Maryland, Department of Civil Engineering; College Park, Maryland.

- Department Head/Senior Engineer; Water Resources Division, Greenhorne & O'Mara, Inc; Riverdale, Maryland.

- Graduate Research Assistant; Department of Civil Engineering, University of Maryland; College Park, Maryland.

- Project Engineer; Water Resources Division, Greenhorne & O'Mara, Inc.; Riverdale, Maryland.

- Design Engineer; Dewberry, Nealon & Davis; Fairfax, VA.

Robert L. Powell, Ph.D.

Professional Activities

Member, Association of Ground Water Scientists & Engineers.

Member, American Society of Civil Engineers.

Selected Publications & Presentations

Calise, S.J., and R.L. Powell. 1984. Microcomputer based management of land disposal systems. Paper presented at the ASCE Annual Meeting (Florida Section), September.

Powell, R.L., and Y.M. Sternberg. 1983. Deterministic models of uncertainty for regional contaminant transport systems. Paper presented at the National Water Well Association-Eastern Regional Conference on Ground Water Management, October.

Onasch, C., R.L. Powell, and R.M. Ragan. 1982. Near surface regional ground water systems modeling and potential applications for remote sensing. *AGRISTARS Report* CP-G2-04361. NASA-GSFC, October.

Hawley, M.E., and R.L. Powell. 1982. Risk analysis in ground water quality testing at hazardous waste landfills. Paper presented at the 14th Mid-Atlantic Industrial Waste Conference, June.

Cook, D.E., R.H. McCuen, and R.L. Powell. 1980. Water quality projections: A preimpoundment case study. *Water Resource Bulletin* 16(1).

Dew, F.W., R.H. McCuen, and R.L. Powell. 1978. A programming approach to planning for agricultural resource allocation and irrigation system design. *Journal of the Washington Academy of Science* 68(4).

Fisher, G.T., R.H. McCuen, R.L. Powell, and W.J. Rawls. 1977. Flooding flow frequency for ungaged watersheds: A literature evaluation. *ARS-NE-86.* Agriculture Research Service, USDA, November.

McCuen, R.H., R.L. Powell, and R.C. Sutherland. 1976. Relative importance of factors affecting pollutant loadings in runoff from urban stream. In *Utility of Urban Modeling.* ASCE Technical Memorandum No. 31, July.

APPENDIX B

East Helena Superfund and Smelter Site	Estimate of Potential Liabilities

10-Oct-07 ENVIRON International Corporation

Future Response Costs for Off-Site Locations	CERCLA - The East Helena Superfund Site is comprised of the ASARCO smelter property and off-site residential, commercial, and agricultural sites that have been impacted by former smelter operations. The East Helena Superfund site originally included five operable units (OUs). A Record of Decision (ROD) was issued for OU1 (Process Ponds) in 1989. ASARCO LLC and its predecessors have completed most of the work to address OU1. The Second 5-Year Review conducted in 2006 notes that not all of the OU1 ROD objectives were completed. Since OU1 is situated on the ASARCO LLC smelter site, follow up activities for OU1 are being addressed as part of RCRA corrective action. Three of the other OUs (Groundwater, Slag Pile, and Ore Storage Areas) have also been moved to the RCRA corrective action program. The remaining OU (OU2) covers soil impact in off-site areas (residential, commercial, and agricultural) as well as vegetation, livestock, and fish & wildlife.	Federal claim for OU2 Proposed ROD - Lead Abatement Program	10-15 years	$ 1,500,000	Continuing lead education program in homes, day-care centers, and schools regarding lead exposure and health monitoring.	$ -	Adjusted figure based on information indicating that child blood lead levels in community have dropped to below USEPA acceptable levels. Therefore, ENVIRON determined that there is inadequate justification for continuation of lead education program.	ASARCO and other PRPs (Anaconda Minerals Company, American Chemet Corporation, Burlington Northern Railroad, and Montana Rail Link).	60%	$ -	$ (1,500,000)	ASARCO LLC allocable share has been conservatively estimated at 60% based upon allocable share of liability based upon ownership and operation of lead smelter and zinc fuming operations at the Site during the period of 1888 through 2001.
		Federal claim for OU2 Proposed ROD - Residential Soil Cleanup	2 years following ROD for OU2	$ 8,500,000	Cleanup of additional 110 residential properties, 9 vacant lots, and 40 sections of unpaved roads and aprons. Note: Government claim is $4.3 million; however, USEPA OU2 ROD fact sheet estimates cost at approximately $8.5 million for additional residential property cleanup.	$ 2,295,000	Adjusted figure based on ENVIRON cost information that indicates residential cleanup cost on average is $7,500 per residence/property.	Same as above	60%	$ 1,377,000	$ (7,123,000)	Same as above
	ASARCO LLC and its predecessors have conducted an on-going non-time critical removal action to address residential soil impact since 1991. In January 2007, USEPA announced a final cleanup plan to address the remaining OU2 soil impact in residential and undeveloped areas and a continuation of the lead education and abatement program.	Federal claim for OU2 Proposed ROD - Non-Residential Soil Cleanup	Unknown	$ 1,300,000	Cleanup of undeveloped properties. Current known scope of 7 acres of railroad right-of-way and 1.8 acres of channels. Scope of potential future cleanup of undeveloped agricultural properties is unknown. Note: Government claim is "undetermined"; however, USEPA OU2 ROD fact sheet has cost estimate of $1.3 million for cleanup of railroad right-of-way and drainage channels.	$ 270,000	Remedial cost estimate at $30,000 per acre, which is based on KDHE experience in the Tri-State mining sites.	Same as above	60%	$ 162,000	$ 162,000	Same as above
		State claim for residential and non-residential soil clean up.	Unknown	$ 14,300,000	Noted as "contingent cost match for future remediation, operation, and maintenance". No basis for claim amount was provided.	$ -	Claim appears to be duplicative of the above-listed USEPA CERCLA claims. ENVIRON estimated cost provided in previous three items.	Same as above	60%	$ -	$ -	Claim assessed a zero value since the claim is redundant regarding Agency claims.
		BNSF claim for ballast and residential soil cleanup.	Unknown	$ 20,000,000	Noted as "amount to be spent on cap/removal of ballast, and remove/replace or residential soil". No basis for claim amount was provided. Claim lists cost range of $7.1MM to $20MM.	$ -	No information regarding the basis of this claim was provided. Cleanup of railroad property has not been identified as necessary under CERCLA. Therefore, ENVIRON believes that justification for this claim has not been demonstrated.	Same as above	60%	$ -	$ (20,000,000)	Claim assessed a zero value since the claim has not been justified.
		BNSF claim for clean up yard adjacent to smelter	Unknown	$ 7,690,000	Noted as "cleanup of yard adjacent to former smelter". No basis for claim amount was provided	$ -	No information regarding the basis of this claim was provided. Cleanup of railroad property has not been identified as necessary under CERCLA. Therefore, ENVIRON believes that justification for this claim has not been demonstrated.	Same as above	60%	$ -	$ (7,690,000)	Claim assessed a zero value since the claim has not been justified.
Past Response Costs for Off-Site Locations	See above CERCLA description.	Federal claim for past response costs.	NA	$ 1,805,772	Claim covers USEPA oversight and response costs (plus interest) for the period of 2000 to the present.	$ 1,805,772	Limited financial documentation regarding response costs was provided, and a clear basis for the claim amount was not provided in these documents. Given that ASARCO has performed the remedial activities, the USEPA costs appear to be excessive for just performing oversight.	Same as above	60%	$ 1,083,463	$ (722,309)	ASARCO LLC allocable share has been conservatively estimated at 60% based upon allocable share of liability based upon ownership and operation of lead smelter and zinc fuming operations at the Site during the period of 1888 through 2001.

East Helena Superfund and Smelter Site	Estimate of Potential Liabilities
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		BNSF claim for ballast and residential soil cleanup.	NA	$ 1,250,000	Noted as "amount spent 2000 to 2005 on cap/removal of ballast, and remove/replace of residential soil".	$ -	This appears to be duplicate of the Federal claim. (Note: None of the documentation provided indicates that BNSF has performed soil removal activities at the site.)	Same as above	60%	$ -	$ (1,250,000)	Claim assessed a zero value since the claim appears redundant of Agency claims.
Penalties		Federal claim for stipulated penalties related to AOC 91-17	NA	$ 6,018,000	Unspecified stipulated penalties related to AOC 91-17 (residential cleanup removal action).	$ 6,018,000	The proof of claim indicates that this penalty is for ASARCO's failure to fund the East Helena Lead Education and Abatement Program and to pay bills for USEPA oversight and response costs related to AOC 91-17. No information was provided to allow for an evaluation of this claim. However, documents reviewed by ENVIRON indicate that ASARCO LLC or its predecessors had provided funds for the Lead Education and Abatement Program.	NA	100%	$ 6,018,000	$ -	
Future Response Costs and Penalties for On-Site	RCRA - A 1998 Consent Decree transferred several of the CERCLA OUs into RCRA (including Groundwater, Slag Pile, and Ore Storage Areas) and required RCRA corrective action for the ASARCO smelter site. Subsequent to the Consent Decree, ASARCO undertook various activities, including: preparation of a Current Conditions/Release Assessment report, implementation of corrective measures (air sparge test, PRB installation, construction of a CAMU, placement of soil and sediment into CAMU, acid plant spill reduction/containment, etc.), and completion of a RCRA Facility Investigation. Although RCRA corrective action work has proceeded, there is no indication that a CMS has been prepared for the site. A 2005 Consent Decree assessed a civil penalty for the alleged improper storage of hazardous waste at the site. The Consent Decree also required ASARCO to take action to remove, store, and properly dispose of remining hazardous waste and recyclable materials at the site. ASARCO is involved in ongoing activities to address this issue.	Federal claim for RCRA Corrective Action	Unknown	Undetermined	Noted as "conduct investigations and appropriate cleanup activities, including SEP..." No basis for claim was provided.	$ 11,100,000	Limited information available regarding status of RCRA corrective action activities or final remedy for the Site. Cost shown is from ASARCO LLC 5-year budget document adjusted to Net Present Value (NPV). Insufficient information was available for ENVIRON to evaluate the basis for the cost estimates outlined in the budget.	ASARCO and other PRPs (Anaconda Minerals Company, American Chemet Corporation, Burlington Northern Railroad, and Montana Rail Link).	60%	$ 6,660,000	$ 6,660,000	ASARCO LLC allocable share has been conservatively estimated at 60% based upon allocable share of liability based upon ownership and operation of lead smelter and zinc fuming operations at the Site during the period of 1888 through 2001.
		State claim for RCRA Corrective Action	Unknown	$ 14,300,000	Noted as "contingent cost match for future remediation, operation, and maintenance". No basis for claim amount was provided.	$ -	Claim appears to be duplicative of the USEPA RCRA claim. ENVIRON estimated cost provided in previous item.	Same as above	60%	$ -	$ (14,300,000)	Claim assessed a zero value since the claim is redundant of Agency claims.
		State claim for "certain remedial activities" at smelter plant	Unknown	Undetermined	This claim appears to address the actions required in the 2005 RCRA Consent Decree regarding the removal, storage, and disposal of remaining hazardous waste and recyclable material at the site.	$ 16,600,000	Limited information available regarding status of RCRA corrective action activities or final remedy for the Site. Cost shown is from ASARCO LLC 5-year budget document adjusted to NPV. Insufficient information was available for ENVIRON to evaluate the basis for the cost estimates outlined in the budget.	Same as above	60%	$ 10,080,000	$ 10,080,000	ASARCO LLC allocable share has been conservatively estimated at 60% based upon allocable share of liability based upon ownership and operation of lead smelter and zinc fuming operations at the Site during the period of 1888 through 2001.

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		Federal claim for 1998 RCRA/CWA settlement stipulated penalties	NA	Undetermined	Unspecified stipulated penalties related to 1998 Consent Decree.	$ -	No information providing details regarding the stipulated penalties was available for review.	NA	100%	$ -	$ -	Claim assessed a zero value since no basis for the claim is provided.
		State claim for RCRA Violation Penalty	NA	$ 179,924	Penalty was assessed in 2005 Consent Decree for alleged improper storage of hazardous wastes.	$ 179,924	ASARCO agreed to imposition of this penalty in 2005 Consent Decree.	NA	100%	$ 179,024	$ -	
		State claim for RCRA Violation Penalty	NA	$ 29,859	Penalty was assessed in later in 2005 (subsequent to the above Consent Decree) for alleged failure to permit a hazardous waste storage facility. The State alleges that ASARCO stored sodium metal in a tank car for 10 years without a hazardous waste permit.	$ -	ASARCO LLC asserts that the material was a commercial chemical product and not a waste material.	NA	100%	$ -	$ (29,859)	Claim assesses a zero value based on ASARCO LLC dispute regarding basis of penalty.
Subtotals Off-Site												
Future Remediation				$ 37,700,000		$ 2,600,000				$ 1,500,000	$ (36,200,000)	
Past Remediation				$ 3,100,000		$ 1,800,000				$ 1,100,000	$ (2,000,000)	
Penalties				$ 6,000,000		$ 6,000,000				$ 6,000,000	$ -	
Total [1]				**$ 46,800,000**		**$ 10,400,000**				**$ 8,600,000**	**$ (38,200,000)**	
Subtotals On-Site												
Remediation				$ 14,300,000		$ 27,900,000				$ 16,700,000	$ 2,400,000	
Penalties				$ 200,000		$ 200,000				$ 200,000	$ -	
Total [1]				**$ 14,500,000**		**$ 28,100,000**				**$ 16,900,000**	**$ 2,400,000**	